Citizen Update

Continuing on the Path to Columbia Basin Fish Recovery

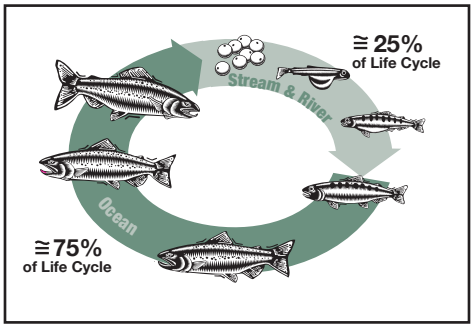
A publication of the Federal Caucus, Columbia River Basin Fish Recovery

The *Citizen Update* is a publication of a group of Northwest regional federal agencies that work together to restore Columbia River Basin salmon and steelhead listed under the Endangered Species Act. This issue of *Citizen Update* looks at ocean influence on salmon survival; an evaluation of progress made by the three federal agencies responsible for the Federal Columbia River Power System; and a feature story highlighting efforts of citizens of the region to restore our natural environment and aid fish recovery. More information on the Federal Caucus efforts can be found on the internet at www.salmonrecovery.gov.

Federal Caucus

Ocean Conditions and Salmon Recovery

Adult salmon returns in 2003 were the highest on record at the Bonneville Dam. In mid-September, fish counters recorded three consecutive days when more than 40,000 fall Chinook passed the viewing window, the highest daily counts in 65 years. The total number of adult Chinook counted as they passed the dam in 2003 was more than 920,000, breaking the 2002 record of around 872,000 Chinook.

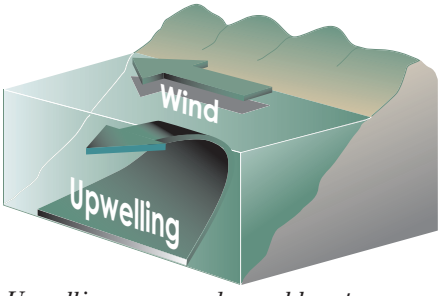


What caused such a dramatic increase?

While many factors influence salmon survival, there is no doubt that the ocean is a major one. Other factors such as improvements in salmon spawning and rearing habitat, improved survival of juvenile fish as they migrate past hydroelectric dams to the sea, hatchery management practices and harvest levels also play an important part.

Salmon spend about 75 percent of their life cycle and gain much of their weight in the ocean. While it is impossible to control the climate patterns and physical factors that influence ocean productivity, there is a clear need for fishery managers to better understand the relationships between freshwater and marine environments that affect salmon production.

The ocean and climatic conditions affect a phenomenon called upwelling. This occurs when cold-water currents cause nutrient-rich waters to be pushed up from deep in the ocean to the surface. Microscopic organisms (plankton) grow rapidly in the



Upwelling occurs when cold water currents bring nutrient-rich waters toward the ocean surface.

The October 2003 issue of *Citizen Update* contained a front page error spotted by sharp-eyed reader Bill Mulligan of Kamiah, ID. In listing activities undertaken to help threatened and endangered fish, we stated, "wilderness roads are being removed…." By definition, as Mr. Mulligan points out, there are no roads in designated wilderness areas. Therefore, we should have said, "roads in some remote areas are being removed." We regret the error.

surface waters and begin a process of transferring these nutrients to larger organisms, through a food web, moving toward the top of the chain that includes herring, anchovies, sardines and salmon. When the plankton and smaller fish are plentiful, salmon grow faster and larger, resulting in better survival and many more returning to their native areas to spawn.

Scientists generally agree a cyclic change in ocean temperatures—called the Pacific Decadal Oscillation, or PDO—has a pronounced effect on the upwelling phenomenon and, therefore, on salmon production. A University of Washington fisheries scientist, Steven Hare, created the term PDO in 1996 while researching relationships between Alaskan salmon production and climate changes.

Another phenomenon affecting ocean conditions is the warming currents of El Niño. The PDO differs from El Niño in two ways: El Niño events usually last 6–18 months instead of 20–30 years for a PDO, and El Niño has the strongest effect in the tropics, while PDO events have the strongest effect on the Northeast Pacific.

Historically, warm PDO phases are associated with high salmon production in Alaska and low salmon production off the west coast of California, Oregon, and Washington. Cool PDO cycles are associated with low salmon production in Alaska and relatively high salmon production for California, Oregon and Washington.

The past century has seen two complete PDO cycles. Cool PDO events favorable to salmon production off of the west coast occurred from 1890 to 1924 and from 1947 to 1976. Warm events favorable to salmon production in Alaska occurred from 1925 to 1946 and 1977 to 1998.

Scientists believe the PDO may have shifted to another cool phase in 1998 or 1999, although they are observing patterns of temperature, air pressure and prevailing winds that are different from previous warm or cool phases of the PDO. There are certainly other factors affecting marine conditions for salmon and the big picture quickly becomes complex.

Ocean conditions now are clearly in a period that is favorable for Northwest salmon, but for how long? There is no known way to predict how long it will last. A hundred years of data may not be enough to understand the cyclic nature of ocean and climate events.

In a 1996 paper, "Decadal Scale Climate Pattern and Salmon Survival: Indicators, Interactions and Implications," James J. Anderson of the University of Washington School of Fisheries suggests fisheries managers may have misinterpreted three major trends in salmon returns during the past century by not accounting for changes in the ocean climate. He points out that after 1920, when the ocean climate entered a warm phase unfavorable to salmon, managers overestimated the effect of harvest on the decline in returning adults. Then, in the 1960s and 70s, they underestimated the detrimental effects of the hydrosystem during the cool phase favorable to salmon survival. Again in the 1980s and 90s, the fishery managers may have underestimated the success of stock rebuilding measures during a time of poor ocean survival conditions.

There is still much to learn about how ocean conditions change with time, but scientists agree that the ocean has a major impact on numbers of returning adult salmon.

Despite all of the uncertainty, at least three things are clear. First, the ocean environment is complex and has an enormous influence on salmon survival. Second, the federal agencies and the region must continue to invest in improvements in fish passage, habitat and hatcheries. It is essential that we continue to improve survival in freshwater habitats—streams, tributaries and rivers—so that when the ocean is favorable, the fish can take advantage of those conditions. Third, the effects of ocean conditions must be taken into account in gauging the results of the region's salmon recovery effort.

Citizens Helping Salmon

When seeking a textbook example of individuals working together successfully for change, you need look no further than Sweet Home, Oregon, and the city's Ames Creek Restoration Project. A section of the creek, which wends leisurely through Sankey Park and the town center on its way to the South Santiam River, was recently returned to its more natural—and fish-friendly—state, following years of damming, dumping and degradation.

In the early 1940s, Ames Creek was dammed to create log ponds for use by local lumber mills. After the mills closed in the 1970s, the ponds were filled in to be a feature of Sankey Park. This impeded fish passage and caused occasional flooding downstream. The ponds were eventually drained after major

Nearby students lend a hand in the Ames Creek Project.

"We've come to expect that big problems are always solved by big programs, handled entirely by experts… Programs do help organize and keep track of efforts, and experts do play important roles, but the key to fundamental change, and ultimately the key to survival of the salmon, lies within each of us."

from *Salmon Without Rivers* by Jim Lichatowich. Copyright 1999 by the author. Island Press, Washington, D.C.

flooding in 1996, but fish passage still presented a problem, and the creek became channelized between steep banks amidst a weedy mudflat. Businesses and residents immediately adjacent to Sankey Park agreed the site required attention, but they weren't the only stakeholders with an interest. The park is home to the popular annual Oregon Jamboree country music festival and adjoins two school grounds and a senior center as well. This meant a proposed solution to the fish and flooding problems would also have to be welcoming to visitors, attractive to residents, safe for children and able to withstand lots of foot traffic. It became clear early on that such wide-ranging goals would only be achieved through extensive collaboration.

Ultimately, an existing, smaller scale partnership between the U.S. Forest Service and local science students—designed to monitor area fish habitat—became the springboard for the multi-phase, six-year project. In addition to countless volunteers from around the region, the list of collaborators grew to include city government, local contractors, the South Santiam Watershed Council, Bonneville Power Administration, National Fish and Wildlife Foundation, and the Oregon Watershed Enhancement Board—many of whom provided grants to pay costs totaling more than $400,000.

Guided by the Ames Creek Steering Committee and technical resource experts from the watershed council and Sweet Home Ranger District (on the neighboring Willamette National Forest), preliminary efforts included planning, fundraising, and a public education process to acquaint stakeholders with project proposals. Then students and other citizens spent hundreds of hours removing years of accumulated garbage, debris and invasive weeds, in preparation for the more complex creek diversion and stabilization activities that would follow.

Finally, in September 2003, major construction began. Ames Creek was completely drained by diverting it around the park through a small-diameter pipe. Volunteers standing at the ready promptly rescued numerous fish from the dry streambed, including 50 cutthroat trout, two steelhead smolts, 200 Pacific lamprey and myriad others, and moved them to safe havens nearby. In under three weeks, a team of Forest Service engineers and local contractors completely re-routed the creek to restore fish passage and correct flooding problems, installed rock weirs to create pools beneficial to fish, stabilized the streambank to forestall erosion and basically re-formed the park terrain. This was followed by broad plantings of grasses, trees and shrubs to beautify the surrounding area, improve wildlife habitat and provide shade to cool the creek. Maintenance and monitoring are ongoing at the site.

Greg Pendle, watershed council coordinator, cites two keys to project success: dedicated individuals and committed partnerships. "There was tremendous community involvement and a

sense among stakeholders their views were being heard throughout the process," he explains. "As kids, some had seen their grandfathers catch steelhead in the creek and dreamed of fishing there again with their own grandchildren. Others simply wanted to clean up downtown. But mostly, over the years, people grew to understand our aims and just fell in love with the idea of making a difference."

For more information on the Ames Creek Restoration Project, contact Greg Pendle at (541) 367-5564 or sswc@centurytel.net.

NOAA Fisheries Responds to 2003 "Check-In" Report

Our last *Citizen Update* provided a summary of the progress reported by three federal agencies in carrying out a 10-year program of actions in the Federal Columbia River Power System of dams to improve conditions for salmon and steelhead. The U.S. Army Corps of Engineers, Bonneville Power Administration and Bureau of Reclamation are jointly responsible for the federal hydroelectric dams on the Columbia and Snake rivers. As such, they are also responsible for carrying out the provisions of a biological opinion issued by NOAA Fisheries in 2000 on how the dams should be operated for salmon and steelhead listed for special protection under the Endangered Species Act.

That biological opinion calls for evaluations in 2003, 2005 and 2008 of how well these three federal "action agencies" are doing. In the closing days of 2003, NOAA Fisheries sent the agencies an evaluation report detailing some shortcomings in how the program was being implemented but also noting the agencies were "fully capable" of correcting those problems before the 2010 program deadline.

The evaluation report, signed by NOAA Fisheries regional administrator, Bob Lohn, said "good progress" was being made in many of the activities required by the biological opinion but cautioned there was still room for improvement—resulting in an overall "yellow" rating. The report cited as examples a slow start by the agencies in developing performance measures to monitor progress in the hydropower system and delays in funding local recovery plans.

But Lohn emphasized this was only the first of a series of three evaluation reports and was hardly a "final grade" on success or failure.

While not awarding a perfect score to the agencies so far, NOAA Fisheries did not suggest the road to salmon recovery was the wrong one, but rather in some instances the schedule had slipped.

The report also noted because some recent salmon returns have been much higher than expected, including record returns of Chinook in 2003, the short-term risk to salmon associated with some of the cited delays has been reduced.

The action agencies' 2004–2008 Implementation Plan outlines how the agencies intend to proceed with research, monitoring and evaluation and support of the Northwest Power and Conservation Council subbasin planning efforts, to move toward a "green" rating for the next NOAA Fisheries evaluation report.

Update on the NOAA Fisheries Biological Opinion Remand

On May 7, 2003, Judge James A. Redden of the Federal District Court of Oregon issued an opinion ruling in favor of a coalition of environmental groups in National Wildlife Federation et al v. National Marine Fisheries Service et al. This case challenged the NOAA Fisheries 2000 biological opinion on operation of the Federal Columbia River Power System for salmon and steelhead. The judge subsequently remanded (handed back) the biological opinion to NOAA Fisheries to correct deficiencies within one year, with status reports every 90 days. The judge later also ruled that the Bonneville Power Administration, U.S. Army Corps of Engineers and Bureau of Reclamation were to continue to implement the biological opinion as deficiencies are addressed.

Judge Redden made it clear in status report meetings that he wanted the states and tribes to have more of a role in the process. As a result, NOAA Fisheries collaborated with the parties through a series of meetings and workshops where information was shared and discussed. The judge recognized that NOAA Fisheries has the final authority on any disputes over science and on the final drafting of the biological opinion. The June 2 deadline for completion of the remand was extended to the end of November 2004 to allow time for collaboration.